VERSION WITH MARKINGS SHOWING CHANGES MADE

IN THE SPECIFICATION:

After the title and before the first paragraph:

THIS APPLICATION IS A U.S. NATIONAL PHASE APPLICATION OF PCT INTERNATIONAL APPLICATION PCT/JP00/06032.

Specification at page 2, line 10:

Applying alternative voltages to driving piezoelectric elements 4 on tuning fork 1 allows tuning fork 1 to perform flexural vibration at its characteristic frequency in the driven direction and at a speed of V in the driven direction. When tuning fork 1 rotates at an angular velocity of ω around the central axis of tuning fork 1 in this condition, a Coriolis force of $F = 2m\underline{V}\cancel{v}\bullet\omega$ is generated in the pair of columns 2 of tuning fork 1, where m is the effective mass of the tuning fork. With this angular velocity sensor, angular velocity were detected by the following steps: amplifying the electric charges generated by the Coriolis force in detecting piezoelectric elements 6 using electronic components 14 on circuit board 12; and measuring the electric charges as output voltages, using an external computer.

Specification at page 3, line 2:

The present invention addresses the above-mentioned problem

and aims to provide an angular velocity sensor in which only little vibration is applied to its tuning fork composed of first oscillator and second oscillator even when external vibration is applied to the sensor with no angular velocity ~~sensors~~ applied thereto and thus allows the prevention of deterioration of its output.

Specification at page 4, line 15:

With this structure, a supporting plate having a placement part on the top face thereof for placing the first rubber body is provided above the top face of the second base so as to provide a space between the top face of the second base and the supporting plate via at least two supports and the top face of this supporting plate and the inner ceiling of the second cover compress the first rubber body and second rubber body. Therefore, the first base and the first cover housing the first and second oscillators therein are securely supported by the first and second rubber bodies. Consequently, even when external vibrations are applied to the angular velocity sensor, these ~~oscillators~~ vibrations transferred to the first and second oscillators are reduced.

Specification at page 12, line 10:

Applying alternative voltages to driving electrodes 25 on first oscillator 22 of tuning fork 21 allows first oscillator 22 to perform flexural vibration at its characteristic frequency in the driven direction at a speed of V in the driven direction. This flexural vibration is transferred to opposite second oscillator 23 via joint 24 and second oscillator 23 also performs

flexural vibration at its characteristic frequency in the driven direction at a speed of V in the driven direction. When tuning fork 21 rotates at an angular velocity of ω around the longitudinal central axis of tuning fork 21 while second oscillator 23 and first oscillator 22 performing flexural vibration, a Coriolis force of $F = 2m\cancel{v}\underline{V}\omega$ is generated in second oscillator 23. The output signal of charges generated by the Coriolis force in detecting electrodes 28 on second oscillator 23 is converted into output voltage using electronic components 43 on circuit board 42 via leads (not shown) and terminals 33. The output signal is input into a computer (not shown) via output terminal 49 of second base 50 for processing and the output signal is detected as angular velocity.

Specification at page 13, line 10:

With the angular velocity sensor in accordance with an exemplary embodiment of the present invention, as shown in Fig. 5, second rubber body 37 has first recess 38 on the bottom face thereof, and moreover, this first recess 38 has step 39 in the inner ceiling thereof. Then the bottom face of this step 39 is brought into contact with the top face of first cover 34. Since second recesses 40 further projecting outwardly are provided on the inner side faces of first recess 38, ~~the bottom face of step 39 in the inner ceiling of first recess 38 is in contact with the top face of first cover 34.~~ ~~E~~edges 41a in the portions other than second recesses 40 provided on the inner side faces of first recess 38 are in contact with the outer side faces of first cover 34. Such contact reduces the area in which second rubber body 37 is in contact with first cover 34; therefore second rubber body 37 reduces

external vibration transferred to the angular velocity sensor, especially vibration of higher-frequency, as shown in Fig. 8. Fig. 8 shows frequency characteristics of vibration transfer varying with size of the areas in which the second rubber body is in contact with the first cover. As a result, external vibrations are difficult to be transferred to first oscillator 22 and second oscillator 23 and this feature is effective in providing an angular velocity sensor with stable characteristics.

IN THE CLAIMS:

1. (Once Amended) An angular velocity sensor comprising:

a tuning fork ~~(21)~~ for outputting a signal responsive to angular velocity;

a first base ~~(31)~~ having a top face for securing a part of said tuning fork ~~(21)~~ thereto;

a first cover ~~(34)~~ for covering said tuning fork ~~(21)~~ together with said first base ~~(31)~~;

a second rubber body ~~(37)~~ in contact with a top face of said first cover ~~(34)~~;

a first rubber body ~~(35)~~ having a top face in contact with a bottom face of said first base ~~(31)~~;

a supporting plate ~~(54)~~ having a top face in contact with a

bottom face of said first rubber body ~~(35)~~;

a second base ~~(50)~~ disposed under said supporting plate ~~(54)~~; and

a second tubular cover ~~(53)~~ having a bottom and covering said tuning fork ~~(21)~~, said first base ~~(31)~~, said first cover ~~(34)~~, said second rubber body ~~(37)~~, said first rubber body ~~(35)~~, and said supporting plate ~~(54)~~ together with said second base ~~(50)~~;

wherein said first rubber body ~~(35)~~ and said second rubber body ~~(37)~~ are compressed and held by the top face of said supporting plate ~~(54)~~ and an inner ceiling of said second cover ~~(53)~~.

6. The angular velocity sensor according to ~~one of~~ Claim~~s~~ 3 ~~to 5~~ wherein said first rubber body has escapes for receiving said plurality of terminals through said first base.

7. (Once Amended) The angular velocity sensor according to ~~one of~~ Claim~~s~~ 3 ~~to 6~~ wherein side faces of said circuit board have notches for positioning said plurality of supports.

8. (Once Amended) The angular velocity sensor according to ~~one of~~ Claim~~s~~ 3 ~~to 7~~ wherein said first base and said first cover are secured to each other so as to create a vacuum in an interior space formed therebetween.

9. (Once Amended) The angular velocity sensor according

to ~~one of~~ Claims 3~~-to 8~~ wherein said plurality of supports of said supporting plate have broad-shouldered portions having a width larger than that of said notches.

Claims 10-17 have been added.

ABSTRACT:

An angular velocity sensor structured so as to reduce the application of external vibrations to tuning fork ~~(21)~~ as described below. Supporting plate ~~(54)~~ having placement part ~~(57)~~ for placing first rubber body ~~(35)~~ over the top face thereof is placed above the top face of second base ~~(50)~~ via at least two supports ~~(55)~~ so as to provide space ~~(54a)~~ between the top face of second base ~~(50)~~ and the supporting plate. First cover ~~(34)~~ and fist base ~~(31)~~ housing tuning fork ~~(21)~~ are placed on first rubber body ~~(35)~~. Further placed on first cover ~~(34)~~ is second rubber body ~~(37)~~. The top face of supporting plate ~~(54)~~ and the inner ceiling of second cover ~~(53)~~ compress and hold first rubber body ~~(35)~~ and second rubber body ~~(37)~~ therein.